SciMedCentral

JSM Clinical Case Reports

Case Report

Two Pathologies in One: Exostosis and Enchondroma in the Same Digit of the Same Side

Thisara Weerasuriya*, Albert Tang, Jack Turnbull, and Francis Chan

[1]*University Hospital, Scotland, UK*
[2]*Steppinghill Hospital Manchester, UK*
[3]*Manchester University, UK*
[4]*Tameside General Hospital, Manchester, UK*

***Corresponding author**
Thisara Weerasuriya, Department of Orthopaedics, Tameside General Hospital, Manchester, UK, and Ayr University Hospital- Scotland, UK, E-mail: drthisara@yahoo.co.uk

Submitted: 26 October 2013

Accepted: 12 November 2013

Published: 19 November 2013

Keywords

- Exostosis
- Enchondroma
- Osteochondroma
- Metastasis

Abstract

A 27 year old man presented with two bony lumps in the fifth toe of the right foot. Both lumps were present from early childhood. The lump in the toe was painful while both lumps were bony and the lump in the metatarsal was diagnosed to be an exostosis of the bone while the phalangeal lump was diagnosed to be an enchondroma. It is a known association to have multiple exostosis with diaphyseal bony deformities and this syndrome is called diaphyseal aclasis. However, the association of exostosis with enchondroma has been reported before but not in the same digit. This case is unique as there were no other exostoses or enchondromata detectable in this patient. No diaphyseal bony abnormalities were detected. This is a case of an unusual association of two conditions.

CASE PRESENTATION

A young man presented to the emergency department after a football match with pain in his Right foot. A dull pain had been present in association with two bony lumps in the same foot since childhood. The pain did not disturb him and the bony lumps were felt only on deep palpation and were ignored as they did not seem to enlarge. The lumps were on the lateral aspect of the right foot. The proximal lump was about 1.5cm in diameter, bony hard, non-tender, not warm and it was difficult to elicit any egg-shell cracking. The second lump was distal and was arising from the proximal phalanx. This lump was tender but not warm. It was smaller than the proximal lump and was bony hard.

INVESTIGATIONS

1. X rays of the foot:- showing a bony lump arising in the fifth metatarsal of the right foot and another lesser sized lump arising from the proximal phalanx of the 5th toe.
2. Nuclear Bone Scan:- Did not demonstrate significant increased uptake in relation to the bony lumps of the right foot.
3. Salicylate test:- helped to achieve complete relief of pain felt in the fifth toe of the right foot.

DIFFERENTIAL DIAGNOSIS

1. Exostosis
2. Enchondroma
3. Simple bone cyst
4. Aneurysmal bone cyst
5. Healing stress fracture
6. Giant cell tumor

TREATMENT

The patient was referred to a bone tumor specialist centre in the United Kingdom. After a detailed discussion with the patient, he opted for non-surgical management. The pain from the lump was not disturbing to him and simple analgaesics were helping him with the pain. Therefore no surgical intervention was undertaken in the case of the phalangeal lump. No neurovascular compromise was found in the foot as a result of the metatarsal lump and no interference with tendon function was detected. Hence this lump was not surgically excised.

OUTCOME AND FOLLOW-UP

The patient is on long term regular follow up as exostosis

can cause pressure symptoms due to compression of adjacent structures and due to the <1% risk of malignant change in isolated lumps with a cartilage cap of 2cm or more. Enlarging enchondromas have the potential of malignant change as well.

DISCUSSION

J. S. Gerland et al. reported a case of osteochondroma and enchondroma occurring in metatarsals of the same foot in 1986 [1]. However there are many case reports of solitary osteochondromas of metatarsals of the foot indexed in PUBMED. Similarly a handful of case reports of enchondromas of the foot have been indexed. Approximately 8% of enchondromas occur in the bones of the foot [1]. Small distal tumors as in the case of our patient tend to be benign while large proximal tumors and new tumors appearing often indicate malignancy [1]. This patient is on long term follow-up for this reason. The presentation of enchondroma is usually in the fourth decade onwards however, they are known to present early when associated with pathological fractures following outdoor activities [1,2,3]. This young man presented to us after a football match due to pain. However the bone scan failed to show any increased uptake indicative of any pathological fracture through the lesion. Rarely some patients have multiple enchondromata [2,3]and are best managed in the specialist bone tumor centre. As our patient had an exostosis and an enchondroma, he was referred to a bone tumor centre of the United Kingdom for management. X rays typically show enchondromata in lesser phalanges and metatarsals of the foot [3]. The hind foot is rarely involved [3]. The lesion is often solitary [3]. It is expansile [3]. It is radio-lucent with minimal matrix calcification [3]. The matrix is typically described as a “pop-corn” or “stippled” appearance [3]. Giant cell tumor does not usually show no matrix calcification and the site is usually metaphyseal or epiphyseal. Enchondromas occurring in phalanges can be expansile and may even destroy the bone [2,3]. This picture is not considered malignant when it occurs in phalanges [2,3]. However this should not be ignored if seen in other long bones such as the femur and humerus. Treatment of the lesion includes non-operative and regular radiographic follow up to curettage and bone grafting of the affected bone [1,2,3]. Recurrence of enchondromas are rare following curettage [2,3]. Exostosis or osteochondroma is the most common bony neoplasm in the body [1,4]. They account for nearly 20-50% of benign bone tumors [1,4]. They are either sessile or pedunculated [4]. After the closure of the physeal growth plate they discontinue to grow [4]. They tend to develop only in bones that have endochondral ossification [1,4]. Nearly 40% of them occur around the knee [4]. This patient had a lesion in the metatarsal which is not one of the common sites. On X rays sessile lesions cause what is called a trumpet lesion and the stalked lesion can be diagnosed by the presence of the latter [1-4]. The thickness of the cartilage cap is best assessed by an MRI scan [1,4]. No treatment is necessary for asymptomatic osteochondromas1 as in the case of our patient. If symptomatic they should be surgically removed. As long as the cartilage cap is removed, usually there is no recurrence of the lesion [1]. If the cartilage cap is thicker than 2cm or there is evidence of continuous growth or fresh rapid growth, one would think of malignant change [1,4]. The risk of malignant change of a solitary lesion is less than 1% [4]. Hence, the necessity of following this patient up on a long term basis. Hereditary multiple osteochondromatosis is an autosomal dominant condition4 with multiple lesions occurring in different bones as well as in the same bone [4]. Often abnormalities of the diaphysis of long bones can be noted with his syndrome also known as diaphyseal aclasis. The patient under discussion did not have a family history and did not have any other lesions of the body involving any bones.

LEARNING POINTS

- Bony tumors can be a cause for pain
- Different bone lumps could cause pain in different mechanisms
- Bony lumps are a site of weakness of the bone which could predispose to fractures.
- Long term follow up is important in some benign bone lumps as they have the potential of undergoing malignant change.
- The mere presence of a lump does not warrant surgical excision always.

REFERENCES

1. Gerland JS, Anania WC, DiPalma FJ, Napoli AE. Osteochondroma with enchondroma of the metatarsals in the same foot. A case report. J Am Podiatr Med Assoc. 1986; 76: 99-101.
2. Stess RM, Tang RE. Enchondroma of the proximal phalanx. J Foot Ankle Surg. 1995; 34: 79-81.
3. Perlman MD, Gold ML, Schor AD. Enchondroma: a case report and literature review. J Foot Surg. 1988; 27: 556-560.
4. Giudici MA, Moser RP Jr, Kransdorf MJ. Cartilaginous bone tumors. Radiol Clin North Am. 1993; 31: 237-259.

Cite this article

Weerasuriya T, Tang A, Turnbull J, Chan F (2013) Two Pathologies in One: Exostosis and Enchondroma in the Same Digit of the Same Side. JSM Clin Case Rep 1(1): 1002.